VI. Descriptions of the BIONET Satellite Program

I am writing because you have expressed interest in learning more about our new program for BIONET Satellites. As you undoubtedly realize, the community requests for access to BIONET are already pushing the resource to its limits during the middle of the day, and applications for access continue unabated. The response from the community of molecular biologists was expected, given our past experiences with the community's need for access to computer software. What was not expected was that the Resource would approach saturation after only six months of operation!

The issue was the topic for discussion at the March 23, 1985 meeting of BIONET's National Advisory Committee (NAC). At that meeting, we proposed a program for BIONET Satellites that would essentially distribute the BIONET Resource to a number of additional sites. In order words, rather than trying to enlarge the existing central timesharing computer, we are trying to take advantage of a large installed base of computers accessible to molecular biologists. This approach to expanding BIONET reflects the changing emphasis in use of computers throughout the scientific community, from centralized to more distributed systems.

The NAC was supportive of this approach because it offers the possibility for a rapidly-growing network of computers and cooperating scientists. At the same time, the NAC and the BIONET staff agreed that distribution of the Resource carries with it the danger of isolation of Satellites from the rest of the community. Therefore, an integral part of our proposal is to extend the collaboration and communication possible on BIONET to the Satellites. In this way, access to electronic mail and bulleting boards, and file transfers of programs and data, will maintain communication within the community.

In a separate letter from Dr. Michael Kelly, General Manager of IntelliGenetics, the BIONET Satellite program is described in more detail, including information on the requirements for full participation as a Satellite. I am hoping that you will become an integral part of BIONET's efforts to make available to the community the latest in analysis programs and sequence data.

Sincerely yours,

Dennis H. Smith, Ph.D.
Resource Manager, BIONET

IntelliGenetics, Inc
An IntelliCorp Company

1975 E. Camino Real W.
Mountain View, Ca
Telephone (415) ...

IntelliGenetics

Dear BIONET Scientist:

The BIONET™ computing resource, a cooperative agreement between IntelliGenetics and the National Institutes of Health is now in its second year of operation. The success of this program is now beginning to outdistance the available resources with over 1200 investigators currently using the system. In order that we may serve the molecular biology community with more of the capabilities of BIONET™, we have instituted a new and exciting program, **Bionet Satellites**.

Bionet Satellites are designed to provide all of the functionality of BIONET at the local level. Utilizing existing Digital Equipment VAX or 2060 computers on your site all of the programs, bulletin boards and electronic mail functions of BIONET™ will be available.

Bionet Satellites existing service capability to the user is available now. It will reflect the three major goals of BIONET:

- To provide computational assistance in data analysis and problem solving to molecular biologists and researchers in related fields.
- To serve as a focus for development and sharing of software.
- To promote rapid sharing of information and collaboration among a national community of scientists.

Messages.

Collaborative research and other community interactions depend on electronic mail and bulletin boards. Exchange of messages across a distributed network is required to maintain this important aspect of BIONET.

File Transfer.

Rapid sharing of software and data among the Satellites and the central 2060 is required to ensure that investigators have access to the latest programs and DNA and protein sequence data. Up- and down-loading of files among computers on the network will make this possible.

In designing our plan for BIONET Satellites, we are paying special attention to communication. We have identified communication as an important Core Research project for BIONET. We have begun implementing both short and long range plans to accomplish this goal:

- **Short Term**. We will take advantage of existing communication software and our telecommunication network, augment it for our purposes, and use it for low bandwidth transfer of messages and files among the computers comprising a distributed BIONET. This software will be made available to Satellites to allow relatively transparent communication with the 2060 and other Satellites.
- **Long Term**. Longer term, the major barrier to high bandwidth, automatic transfer of messages and files is the current lack of access of the BIONET community to existing networks (ARPANET, CSNET) that support such activities. In other words, the technology

exists, but the community and many potential sites for Satellite do not have ready access to it. It is our goal to make that technology available to a distributed BIONET. We are currently exploring funding resources and existing networks that will allow us to meet that goal.

We also plan to link BIONET with other National Resources, including GenBank™, the Protein Identification Resource (PIR), the newly-established Molecular Biology Computer Research Resource at Dana Farber, and other national and international resources. For example, it would be possible to use the communications facilities described above to obtain new programs from Dana Farber, use them in concert with the latest GenBank data and complementary analysis software on BIONET or one of its Satellites, and forward resulting sequence data directly to GenBank or the PIR. Your participation as a BIONET Satellite in this enterprise will allow you to take immediate advantage of these facilities.

A Bionet Satellite can be installed on your site in a short period of time. The BIONET staff will provide training to assist your colleagues in using the core group of genetic engineering programs.

Accessing this service only requires the purchase of a software license from IntelliGenetics. A special purchase program has been arranged to make it easy for academic institutions such as yours to join the Bionet Satellite program. The cost of the license for this service is:

DEC MicroVAX II (DH-630Q4) - $20,000 per year for three years
DEC VAX 11/750 or larger - $20,000 per year for three years
DEC 2060 - $24,000 per year for three years.

) 2060 the cost per user is $400 per year. This price software at least six times a year. At the end of the by purchase of a maintenance agreement which is

Assuming 50 users on the VAX or 60 users on a DEC includes the update of databases and upgrading the three year period the software will be maintained currently $6,000 per year.

ting resource, please write to me.

If you would like to join this extremely useful compu

.D.

Michael J. Kelly, Ph
General Manager
IntelliGenetics, Inc.
1975 El Camino Rea
Mountain View, CA

l West
94040-2216

on and provide advice in setting up your Bionet am. We look forward to providing you the ultimate gy.

We will give your application immediate attentic Satellite. Thank you for your interest in this progr in computing and communication for molecular biolo

Sincerely yours,

Michael J. Kelly, Ph.D.
General Manager
IntelliGenetics, Inc.

October 1985

VII. Text of Advertisement to Appear in Nucleic Acids Research

IntelliGenetics
INVITES YOU TO JOIN
BIONET™

AN N.I.H. COMPUTER RESOURCE FOR MOLECULAR BIOLOGY

OVER 1500 SCIENTISTS ALREADY BENEFIT FROM:

- ACCESS TO THE LATEST DATABASES OF SEQUENCES
- ACCESS TO COMPUTER PROGRAMS
  - -TO ENTER AND ANALYZE SEQUENCES
  - -TO COMPARE SEQUENCES TO DATABASES
  - -TO HELP PLAN CLONING EXPERIMENTS
  - -TO PROVIDE TOOLS FOR PROGRAM DEVELOPMENT
- ACCESS TO HUNDREDS OF YOUR COLLEAGUES AND THEIR RESEARCH RESULTS USING ELECTRONIC MAIL AND ELECTRONIC BULLETIN BOARDS

CONTACT US TODAY... BIONET™

c/o IntelliGenetics, Inc.

An IntelliCorp Company
1975 El Camino Real West
Mountain View, California 94040-2216
Telephone (415) 965-5575

VIII. The BIONET Brochure Mailed to NIH Grantees

AN N.I.H. COMPUTER RESOURCE FOR MOLECULAR BIOLOGY

JOIN US...

BIONET™
c/o IntelliGenetics, Inc.
An IntelliCorp Company
1975 El Camino Real West
Mountain View, California 94040-2216
Telephone (415) 965-5575

Bulk rate #
934
Menlo Park, CA

Dear Scientist:

Your name is included in a list of National Institutes of Health grantees given us by the NIH grant management staff. This indicates that your research may be in MOLECULAR BIOLOGY or a related field involving ANALYSIS OF PROTEIN AND NUCLEIC ACID SEQUENCE DATA:

IF you would benefit from:

- Access to the latest databases of sequences
- Access to computer programs

  –to enter and analyze sequences
  –to compare them to databases
  –to help plan cloning experiments
  –to provide tools for program development

- Access to hundreds of your colleagues and their research results via electronic mail and electronic bulletin board facilities

return this card for an application to the BIONET Resource.

BIONET™ is a national computer resource sponsored by the National Institutes of Health and established to provide scientists at non-profit institutions with an interactive timesharing computer, up-to-date sequence databases and analysis programs, and powerful communication tools for rapidly exchanging information with colleagues:

- The Core Library, consisting of nine programs that manipulate and analyze nucleic acid and protein sequence data, plus additional programs contributed by the BIONET community.
- The Database Library, containing existing databases of nucleic acid and protein sequences, including GenBank,™ the European Molecular Biology Laboratory (EMBL) database, the National Biomedical Research Foundation (NBRF) library of protein sequences, VectorBank,™ and Cold Spring Harbor Restriction Enzyme database.
- The System and Programming Support Library, providing tools for program development, including: programming languages (Fortran, C, Pascal, BASIC, MAINSAIL, and Interlisp) and system utility programs (MLAB, EMACS, TVEDIT and SCRIBE™); facilities for electronic mail and electronic bulletin boards; KERMIT and MODEM for file transfer; the UNINET™ telecommunications network.

The *BIONET* resource will admit researchers from academic and non-profit institutions who can demonstrate that they are supported by governmental, philanthropic, or unrestricted institutional funds and that their research can be assisted by Resource facilities. The *BIONET* staff will consider applications funded from proprietary or restricted sources, and make recommendations to its National Advisory Committee which will make final decisions on all access to the Resource. There is an annual subscription fee of $400 to cover telecommunication costs.

If you would like more information about the BIONET Resource and an application form, please fill in and mail the attached card.

BIONET has also instituted a program of Satellite Resources, whereby investigators can run BIONET software on local DEC 20™ or VAX,™ or SUN™ computers. Check the box on the return card to obtain more information.

Dr., Mr., Ms. _____

Position/Title _____

Company/Institution _____

Address _____

City _____ State _____ ZIP _____

Telephone _____

(Please print clearly—This will be used as your mailing label)

PLACE STAMP HERE

BIONET™

c/o IntelliGenetics, Inc.
An IntelliCorp Company
1975 El Camino Real West
Mountain View, California 94040-2216

☐ Check this box to obtain more information on BIONET Satellite Resources